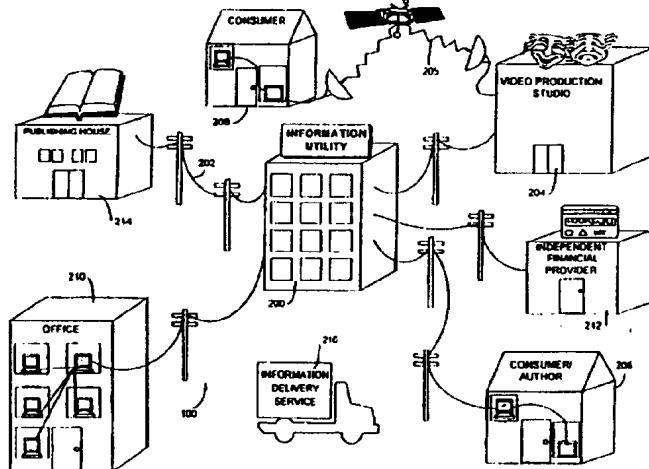




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| (51) International Patent Classification ⁶ : G06F 1/00, 17/60 | | A3 | (11) International Publication Number: WO 96/27155 (43) International Publication Date: 6 September 1996 (06.09.96) |
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| (22) International Filing Date: 13 February 1996 (13.02.96) | | | |
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| (71) Applicant: ELECTRONIC PUBLISHING RESOURCES, INC. [US/US]; 5203 Battery Lane, Bethesda, MD 20814 (US). | | | |
| (72) Inventors: GINTER, Karl, L.; 10404 43rd Avenue, Beltsville, MD 20705 (US). SHEAR, Victor, H.; 5203 Battery Lane, Bethesda, MD 20814 (US). SPAHN, Francis, J.; 2410 Edwards Avenue, El Cerrito, CA 94530 (US). VAN WIE, David, M.; 1250 Lakeside Drive, Sunnyvale, CA 94086 (US). | | | |
| (74) Agent: FARIS, Robert, W.; Nixon & Vanderhye P.C., 1100 North Glebe Road, Arlington, VA 22201-4714 (US). | | | (88) Date of publication of the international search report: 19 June 1997 (19.06.97) |

(54) Title: SYSTEMS AND METHODS FOR SECURE TRANSACTION MANAGEMENT AND ELECTRONIC RIGHTS PROTECTION



(57) Abstract

The present invention provides systems and methods for electronic commerce including secure transaction management and electronic rights protection. Electronic appliances such as computers employed in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Secure subsystems used with such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Secure distributed and other operating system environments and architectures, employing, for example, secure semiconductor processing arrangements that may establish secure, protected environments at each node. These techniques may be used to support an end-to-end electronic information distribution capability that may be used, for example, utilizing the "electronic highway".

* (Referred to in PCT Gazette No. 52/1996, Section II)

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INTERNATIONAL SEARCH REPORT

Intern'l Application No
PCT/US 96/02303A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 G06F1/00 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Date of the actual completion of the international search

18 April 1997

Date of mailing of the international search report

14.05.97

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentzaan 2
NL - 2280 HV Rijswijk
Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl.
Fax: (+ 31-70) 340-3016

Authorized officer

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INTERNATIONAL SEARCH REPORT

International Application No

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C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| Y | | 21,22, 29,30, 103-108, 127-130, 223,224, 233,234, 237,238, 241-244, 504,506 |
| A | see page 23, last paragraph - page 24, paragraph 1 | 61,143, 144,207, 208,245, 246, 487-500, 507-509 |
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INTERNATIONAL SEARCH REPORT

International Application No
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C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| Y | see abstract; figures 2,4,12 | 21,22, 109,110, 115, 203-206, 213,214, 223,224, 237,238, 265, 302-305, 394,395 |
| A | see column 4, line 33 - column 6, line 24 see column 24, line 33 - column 25, line 13 | 25,26, 31-38, 127-132, 207,208, 370-374, 381-384, 404 |
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INTERNATIONAL SEARCH REPORT

Internat'l Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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| Y | | 109,110, 115, 302-305, 394,395 |
| A | see column 2, line 9 - column 3, line 26 | 245,246, 253,254 |
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INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/US 96/02303

C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| Y | US 4 799 156 A (SHAVIT EYAL ET AL) 17 January 1989 see abstract; figure 2 see column 7, line 47 - column 8, line 54 see column 9, line 7 - column 11, line 35 | 42-44, 203-206, 213,214 |
| A | | 153,154, 207,208, 225-228, 370-374, 381-384, 494-497, 501-503 |
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INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/US 96/02303

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INTERNATIONAL SEARCH REPORT

Int'l. application No.

PCT/US 96/02303

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See annexed sheets.

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

Inventions: 3, 6, 7, 9, 10, 24 and 29

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remarks on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 96/02303

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

The following (groups of) inventions have been identified:

| Invention | Claims | Subject matter |
|-----------|--|---|
| 1. | 1-12,17-26,29,30,61-65,68, 69,72-77,99-108,127-130, 133-138,147-152,155-158, 199,200,219-222,233,234, 243,244,265-268,294-301, 363,364,396,404,504,506 | Solving problems related to: Distributing electronic information to a rightful destination using a different virtual distribution environment node (than either supplier or destination) to process the control information associated with the said digital information (cf. either of documents D1 and D2) |
| 2. | 13-16 | Solving problems related to: Automating electronic processes. |
| 3. | 31-39,42-45,55-58,153,154, 203-208,213-218,223-228, 231,232,237,238,241,242, 370-374,381-384,487-489, 500,505,507-512 | Solving problems related to: Electronic commerce. |
| 4. | 40,41,46-54,259-262,402 | Solving problems related to: Identification of principals or principals' properties. |
| 5. | 59,60,66,67,70,71,235,236, 239,240,401 | Solving problems related to: Handling electronic currency. |
| 6. | 78-81,139-144,197,525 | Solving problems related to: Tamper-resistant containers. |
| 7. | 82-84,109-116,127-132, 273-276,302-305,394,395, 494-497,501-503 | Solving problems related to: Audit or administrative information. |
| 8. | 85,86 | Solving problems related to: Human readable interfaces. |
| 9. | 87-92,201,202,209,210,282, 283 | Solving problems related to: Event or task processing. |
| 10. | 93-98,277-280,306-318, 342-349,375-379,385, 387-393 | Solving problems related to: Checking component integrity or validity. |
| 11. | 117-122 | Solving problems related to: Compromising a security system. |

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INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 96/02303

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

| | | |
|-----|---|---|
| 12. | 123-126 | Solving problems related to: Electronic data fingerprinting. |
| 13. | 159,160,194-196,400,516, 523,524 | Solving problems related to: Secure processors. |
| 14. | 161-166,517 | Solving problems related to: Video controllers. |
| 15. | 167-172,175,176,518,519 | Solving problems related to: Network communications. |
| 16. | 173,174,520 | Solving problems related to: CD-ROM controllers. |
| 17. | 177,178,521 | Solving problems related to: Set-top controllers. |
| 18. | 179-185,522 | Solving problems related to: Electronic games. |
| 19. | 186-193 | Solving problems related to: Multimedia communications. |
| 20. | 198,526 | Solving problems related to: Detection of power supply interruption. |
| 21. | 145,146 | Solving problems related to: Bitmap data structures. |
| 22. | 211,212 | Solving problems related to: Modular control structures. |
| 23. | 229,230 | Solving problems related to: Billing and budgeting. |
| 24. | 245,246,253,254,341, 350-353,360-362 | Solving problems related to: Protected processing operations. |
| 25. | 27,28,247-252,513-515 | Solving problems related to: Secure database management. |
| 26. | 263,264 | Solving problems related to: Secure electronic mail. |
| 27. | 269-272 | Solving problems related to: Controlling a robot. |

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INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 96/02303

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

| | | |
|-----|-------------------------|---|
| 28. | 284-293,482-486 | Solving problems related to: Business automation. |
| 29. | 318,321-340 | Solving problems related to: Software construction. |
| 30. | 320,369,380 | Solving problems related to: Resource management. |
| 31. | 354-359,365-368 | Solving problems related to: Combining or modifying data. |
| 32. | 397 | Solving problems related to: Point of sale systems. |
| 33. | 398,399,490-493,498,499 | Solving problems related to: Advertising. |
| 34. | 403 | Solving problems related to: Renting an appliance. |
| 35. | 255-258,281,386 | Solving problems related to: Rights described in software. |

A concise analysis shows that the Special Technical Features of these 35 groups of claims, as determined by comparison with the features disclosed in either of documents D1 or D2, are not the same. A comparison of the objective problems related to these different groups of inventions, all seen in the light of the description and the drawings of the application, shows that these objective problems are all different and have no corresponding technical effect.

Consequently, the Special Technical Features of these different groups of inventions are neither the same nor corresponding as defined in Rule 13.2 PCT, 2nd sentence, and therefore the requirement of Unity of Invention (Rule 13.1, 2 PCT) has not been fulfilled.

Finally, it should be noted that searching the additional subject-matter of any of the groups of claims 2-35 would have involved a considerable additional search effort.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 96/02303

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